CLAIMS

1. A radar including a transmission-and-reception element for transmitting a transmission signal including an ascending-modulation section where a frequency gradually increases and a descending-modulation section where the frequency gradually decreases in an alternating manner and receiving a reception signal including a reflection signal transmitted from an object, a frequency-analysis element for obtaining data on the frequency spectrum of a beat signal indicating the frequency difference between the transmission signal and the reception signal, a pair-extraction element for extracting a pair of first and second projection portions caused by one and the same object, where the first projection portion is observed in the frequency spectrum of a beat signal of the ascending-modulation section and the second projection portion is observed in the frequency spectrum of a beat signal of the descending-modulation section, and a predetermined element for detecting at least one of the relative distance and relative speed of the object based on frequencies of the two projection portions forming the pair, wherein a predetermined element for inputting data on the moving speed of a moving object having the radar mounted thereon is provided, and the pair-extraction element inversely calculates the frequency

difference between the projection portions observed in the frequency spectrums of the beat signals in the ascending-modulation section and the descending-modulation section based on the moving-speed data, where the frequency difference corresponds to a stationary object, and extracts a pair corresponding to the frequency difference on a priority basis.

2. The radar according to Claim 1, wherein the pair-extraction element calculates the coincidence of the signal intensity of the first projection portion and the signal intensity of the second projection portion, extracts a combination showing high coincidence on a priority basis, as a pair, and assigns a high weight to the signal-intensity coincidence of a pair corresponding to the frequency difference.

3. The radar according to Claim 1, comprising a scanning element for changing the beam azimuth of the transmission signal over a predetermined scanning range, wherein the pair-extraction element calculates the coincidence of azimuths of the first and second projection portions, extracts a combination showing high coincidence on a priority basis, as a pair, and assigns a high weight to the azimuth coincidence of a pair corresponding to the frequency difference.

4. The radar according to Claim 2, comprising a scanning

element for changing the beam azimuth of the transmission signal over a predetermined scanning range, wherein the pair-extraction element calculates the coincidence of azimuths of the first and second projection portions, extracts a combination showing high coincidence on a priority basis, as a pair, and assigns a high weight to the azimuth coincidence of a pair corresponding to the frequency difference.

5. The radar according to Claim 1, comprising a scanning element for changing the beam azimuth of the transmission signal over a predetermined scanning range, wherein the pair-extraction element calculates the degree of correlation between signal-intensity profiles in the azimuth direction of the first and second projection portions, extracts a combination showing a high correlation degree on a priority basis, as a pair, and assigns a high weight to the correlation degree of a pair showing the frequency difference.

6. The radar according to Claim 2, comprising a scanning element for changing the beam azimuth of the transmission signal over a predetermined scanning range, wherein the pair-extraction element calculates the degree of correlation between signal-intensity profiles in the azimuth direction of the first and second projection portions, extracts a combination showing a high correlation degree on a priority

basis, as a pair, and assigns a high weight to the correlation degree of a pair showing the frequency difference.

7. The radar according to Claim 3, comprising a scanning element for changing the beam azimuth of the transmission signal over a predetermined scanning range, wherein the pair-extraction element calculates the degree of correlation between signal-intensity profiles in the azimuth direction of the first and second projection portions, extracts a combination showing a high correlation degree on a priority basis, as a pair, and assigns a high weight to the correlation degree of a pair showing the frequency difference.

8. The radar according to Claim 4, comprising a scanning element for changing the beam azimuth of the transmission signal over a predetermined scanning range, wherein the pair-extraction element calculates the degree of correlation between signal-intensity profiles in the azimuth direction of the first and second projection portions, extracts a combination showing a high correlation degree on a priority basis, as a pair, and assigns a high weight to the correlation degree of a pair showing the frequency difference.

9. The radar according to Claims 1 to 8, comprising a predetermined element, wherein where a predetermined number

of the pairs showing the frequency difference exist along at least one of the azimuth direction and the distance direction, the element determines that the pairs indicate a continuous stationary object.

10. The radar according to Claims 1 to 8, comprising a predetermined element, wherein where an object corresponding to a pair that does not correspond to the frequency difference is detected in a predetermined area where the continuous stationary object exists, the element determines that the pair extraction is an error.

11. The radar according to Claim 9, comprising a predetermined element, wherein where an object corresponding to a pair that does not correspond to the frequency difference is detected in a predetermined area where the continuous stationary object exists, the element determines that the pair extraction is an error.

12. The radar according to Claims 1 to 8, comprising a predetermined element, wherein where a predetermined object is detected beyond the continuous stationary object, the element does not output the detection result.

13. The radar according to Claim 9, comprising a predetermined element, wherein where a predetermined object is detected beyond the continuous stationary object, the element does not output the detection result.

14. The radar according to Claim 10, comprising a

predetermined element, wherein where a predetermined object is detected beyond the continuous stationary object, the element does not output the detection result.

15. The radar according to Claim 11, comprising a predetermined element, wherein where a predetermined object is detected beyond the continuous stationary object, the element does not output the detection result.